

Claim 4 has been amended and now relates to a storage pallet that meets the Underwriters Laboratories (UL) 2335 protocol for fire tests of storage pallets. A copy of UL 2335 is enclosed.

Claim 5 has been amended in subparagraph b) to clarify its meaning.

Claim 7 has been amended to clarify its meaning.

Claim 8 has been amended to delete reference to "open-deck design" which is now the subject matter of new claim 25. Claim 8 has also been amended to state that the pallet of the invention has at least one deck. This amendment finds antecedent basis in the specification, for example, in FIG. 1 and on page 15, lines 1-6.

New claim 24, drawn to the static coefficient of friction of the surface of the container, finds antecedent basis in the specification, for example, on page 15, lines 25-26.

Antecedent basis for new claim 25, which relates to a pallet of the invention having openings in at least one deck thereof, is to be found, for example, in original claim 8, in FIG. 1, and on page 15, lines 1-9, of the specification.

Antecedent basis for new claim 26 relating to a plastic container comprising an antimicrobial additive is to be found, for example, in original claim 2.

New claim 27 which is drawn to friction materials finds antecedent basis in the specification, for example, on page 19, lines 6-7.

Antecedent basis for new claim 28, drawn to a plastic container comprising structural foam, is to be found in the specification, for example, on page 12, line 4.

Antecedent basis for new claim 29, drawn to certain additives to the plastic container, is to be found in the specification, for example, on page 13, line 9.

New Claim 30 is similar to claim 1, as amended, except that it comprises a non-halogenated flame retardant instead of friction material. Antecedent basis for a non-halogenated flame retardant is to be found in the specification, for example, on page 13, lines 19-21.

New claims 31, 33, 34 and 35 are similar to claims 8, 28, 29, and 26, respectively, except that they depend from new claim 30 rather than claim 1.

New claim 32 discloses preferred epoxy resins of the present invention and finds antecedent basis in the specification, for example, on page 8, lines 29-31 and on page 9, lines 28-31.

New claim 36 discloses preferred flame retardants in accordance with the specification, for example, at page 13, lines 14-21.

New claim 37 is drawn to the amount of flame retardant that is present in the polymeric composition of claim 30. Antecedent basis for this claim is to be found in the specification, for example, on page 14, lines 4-5.

New claim 38 relates to a plastic container comprising polymeric structural foam as disclosed in the specification, for example, on page 12, lines 4-7. The container further comprises one or more additives that can be any of rubber-free friction material, non-halogenated flame retardants, and antimicrobial additives as are disclosed, for example, in claims 1, 2, and 30.

New claim 39 discloses the container of the invention comprising bubbles in accordance with the specification, for example, at page 13, line 9.

New claim 40 relates to a pallet as is disclosed in the specification, for example, on page 5, line 1.

New claim 41 is an independent claim relating to plastic containers of the invention that comprise an antimicrobial additive. Antecedent basis for this new claim is to be found in the specification, for example, on page 6, lines 6-8, 18-20, and on page 19, line 20 to page 23, line 18. See particularly page 20, lines 22-24.

New claim 42 relates to a plastic pallet and finds antecedent basis in the specification, for example, on page 19, lines 20-22.

New claim 43 relates to a plastic container having an antimicrobial agent incorporated throughout the polymeric composition or as a protective and adherent polymeric coating on the container, as is disclosed in the specification, for example, on page 6, lines 9-18, and page 23, lines 4-6.

New claim 44 is drawn to a plastic container wherein the antimicrobial additive can be any of mildewcides, antiseptics, disinfectants, sanitizers, germicides, algacides, slimicides, antifouling agents, biocides, and preservatives. Antecedent basis for this claim is to be found in the specification, for example, on page 19, lines 30-31, and on page 23, line 6.

New claim 45 relates to relates to antimicrobial additives that can be any of bacteria, fungi, viruses, actinomycetes, and parasites. Antecedent basis for this claim is to be found in the specification, for example, on page 6, lines 6-8.

Examination and reconsideration of the application, as amended, are respectfully requested.

**Restriction Requirement**

Attorney Lucy C. Weiss exchanged voice messages with the Examiner regarding the restriction requirement which resulted in an election of invention. Ms. Weiss sent me a written communication in which she said it is her usual practice to elect with traverse and it was her intention to do so. She has no record of what was actually said. It is Applicant's desire to elect with traverse and notes that the restriction was based on MPEP 806.05(f). Distinction of inventions is shown if the product as claimed can be made by a materially different process. The Office Action alleges applying the friction material to the molded article after curing via adhesive is a materially different process

Applicant disagrees that applying the friction material to the molded article after curing via adhesive is a materially different process. Such a method is disclosed in the application on page 16, line 21, and this method is included within the open-ended language of method claims 19-23. This method is an alternative embodiment of the invention.

No reason has been given for the restriction of curable polymeric composition claim 18.

It is submitted that restriction of claims 18-23 is not proper and should be withdrawn. Reconsideration of the restriction requirement is respectfully requested. Applicant offers to amend claims 18, 19, and 21 to incorporate a non-halogenated flame retardant in the curable composition of the plastic shipping/storage container.

**The Rejections****Paragraphs 7- 8**

The Office Action alleges lack of enablement for a container.

The Office Action fails to appreciate that the present invention does not invent a container. Containers are well-known in our technical society and are defined in *The American Heritage Dictionary*, 2<sup>nd</sup> edition, Houghton Mifflin Company, New York (1991) at page 316 as "Something, as a box or barrel, in which material is held or carried; receptacle". This reference is enclosed. Rather, the present invention relates to a container produced from a superior polymeric composition. Such a container has not before been known in the art. The container as defined in claim 1, as amended, is required to have friction material that is rubber-free on at least one surface of the container. New independent claim 30 defines a container that comprises a non-halogenated flame retardant. New independent claim 38 is drawn to a plastic container

comprising polymeric structural foam and at least one of three stated additives. New independent claim 41 is drawn to a plastic container comprising an antimicrobial additive having certain specified characteristics relating to the antimicrobial additive. It is submitted that none of these containers having the compositions as defined by the claims is known or suggested in the art.

The instant specification is replete with many references to and examples of containers. A pallet is an example of a container (see page 5, line 1, for example), and also see the dictionary definition stated above, but it is not the only type of container that is useful in the present invention. For example, on page 14, lines 23 to 31, it is stated that "Plastic shipping containers, including pallets, of the present invention can be of a variety of shapes and constructions, as is known in the art." Nine patents are listed which show various types, constructions, and methods of making containers that can be used in the present invention. In the Example section on page 25, line 25, for example, there are disclosed curable polymeric compositions (7 are disclosed in Table 2 on page 26) for pallets and containers. It is the unique and unobvious compositions of the containers that distinguish them from other containers in the art.

It is submitted that the present invention is well-enabled for containers and this rejection has been overcome.

#### Paragraphs 9-10

Several terms are objected to as being indefinite.

The inconsistency in Claim 1 between "shipping or storage" and "shipping and storage" containers has been overcome by amendment to the claim which now states "one or both of" shipping and storage.

Although Applicant strenuously disagrees that "including" is indefinite, it being an accepted and frequently used word in patents and its meaning is defined in dictionaries as "comprising" (see, for example, the Perez et al. '948 reference cited in this Office Action, claims 1 and 21), to facilitate prosecution of this application, its synonym "comprising" now replaces the word "including" in claim 1.

"Effective amount" is objected to in claims 1 and 2. During a telephone interview with the Examiner and his Supervisor (see acknowledgement below) it was suggested by the

Examiner that “effective amount” be deleted from the claims for purposes of clarity. Applicant has agreed to this amendment because it does not narrow the scope of the claims.

The Office Action alleges the scope of claim 1 cannot be ascertained because the purpose and structure of the container is not stated in the claim. It is well-accepted in the patent arts that a large number of embodiments may come under the scope of an expression (in this case “containers”), the expression is not for that reason indefinite. There is no reason to believe that the public would be confused as to what subject matter is circumscribed by that expression in the claim. *In re Skoll*, 187 USPQ 481 (CCPA 1975). Although the invention is applicable to a large variety of embodiments, the Examiner offered no reason why these different embodiments would require different techniques or process parameters. *In re Strahilevitz*, 212 USPQ 561, 563 (CCPA 1982). The test for definiteness is whether those skilled in the art would understand what is claimed when the claim is read in light of the specification. See, *Festo v. Shoketsu Kinzoku Kogyo Kbushiki Co.*, supra. It is submitted the scope and purpose of the container is clear (these are shipping/storage containers) and the claim is entirely proper.

In amended claim 3, “RFID” has been written out in full.

In claim 4, Applicant does not claim (UL) 2335 as his invention. In amended claim 4, Applicant is claiming as his invention a pallet comprising a specified composition and having certain stated properties and the pallet does indeed meet the requirements of (UL) 2335, a standard for fire tests of storage pallets which is well-known in the art and is readily available. It is admitted in the Office Action to be an established standard. A copy of this standard is enclosed. A patent need not teach, and preferably omits, what is well-known in the art. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed.Cir. 1986). There is precedent for a claim including a UL standard. See U.S. Patent No. 6,536,169, particularly claim 16, a copy of which patent is enclosed.

As to claim 5, the polyolefin component can be of two types: hydrocarbon polyolefin and functionalized polyolefin. An editorial amendment to the claim has clarified this point. Together the polyolefin components account for 51-99 parts by weight of the total composition. However, 25 to 99 parts are of the hydrocarbon polyolefin and 0 to 50 parts can be of the functionalized polyolefin. It is submitted this rejection has been overcome.

In claim 7 an editorial amendment has been made to clarify the meaning of “more than zero to 70 parts by weight”. It is submitted this rejection has been overcome.

In claim 8, open deck design is alleged to be indefinite and lack of structure is alleged. Claim 8 has been amended to state that the plastic container is a pallet having at least one deck. The design of a typical open-deck type pallet is clearly shown in the Drawing. Also, see page 8, lines 2-3, page 15, lines 1-17, and Fig. 1. The optional phrase has been deleted from the claim and is the subject of new claim 25. It is submitted this rejection has been overcome.

It is alleged claim 8 is indefinite because the structure is not disclosed and the scope of the claim cannot be ascertained. Applicant has emphasized that the invention here is not of a container or pallet of a certain design, but rather one of certain composition having certain features: for example, friction properties as defined in claim 1, and flame retardancy as defined in claim 30, and comprising polymeric structural foam in claim 38. The scope of the claim is objected to. It is well-accepted in the patent arts that section 112 of 35 USC does not permit an Examiner to study a disclosure, to formulate a conclusion as to what he (the Examiner) regards as the broadest invention supported by the disclosure, and then to determine that the claims are broader than the Examiner's conception of what "the invention" is. The first sentence of the second paragraph of 112 is essentially a requirement for precision and definiteness of claim language. If the scope of the subject matter embraced by a claim is clear, and if the applicant has not otherwise indicated that he intends the claims to be of a different scope, then the claim does particularly point out and distinctly claim the subject matter that the applicant regards as his invention. *In re Borkowski and Van Venrooy*, 164 USPQ 642 (CCPA 1970). Applicant submits his claims meet the requirements of this case law and this rejection should be withdrawn.

It is submitted that all 35U.S.C.112 rejections have been overcome or have been shown to be improper.

### **Claim Rejections – 35 USC 103**

#### **Paragraph 12**

Claims 1, 2 and 5-11 have been rejected under 35 US 103(a) as being unpatentable over Nagano et al. in view of Nishitani et al.

Both Nagano et al. and Nishitani et al. relate to plastic pallets. Nagano et al. discloses polyolefin pallets with fire-proofing properties provided by halogenated epoxy resin. Nishitani et al. discloses thermoplastic pallets having an antislip means on its surface.

As noted, the Nishitani et al. pallets are made of thermoplastic resin and require the presence of anti-slip means on at least one of its surfaces, but, importantly, the antislip means has rubber on its surface (see col. 4, lines 37-39). See also col. 5, lines 31 to 36 where anti-slip means is broadly stated, but only rubber is named. No other anti-slip means is suggested or used in the reference.

In contrast, Applicant's friction material as defined in amended claim 1, and claims dependent thereon, is free of rubber and indeed rubber is not desirable in the instant invention. See pages 15-16, bridging sentence, where it is stated that the coefficient of friction of rubber tends to drop in the presence of oils and moisture and as the rubber hardens due to aging and low temperatures. Clearly, friction materials of the present invention that are rubber-free do not develop the detrimental properties of rubber-containing anti-slip agents. It is submitted that claim 1 and claims dependent thereon are novel and unobvious over Nagano et al. in view of Nishitani et al.

It is important to note that Nagano et al. requires the presence of a halogenated epoxy as a fire proofing agent. See [0013] which states: "The halogenized epoxy resin used in this invention adds fire proofing to the polyolefin". It can also contain other fireproofing agents in addition to the halogenated epoxy. See, for example, [0014] where other fireproofing agents that can be used in addition to halogenated epoxy are disclosed. It is to be appreciated that halogenated fire proofing agents can produce noxious gases at high temperatures providing an additional hazard in fires.

In contrast, the present invention new claim 30 clearly states that the composition contains a non-halogenated flame retardant. Since halogenated epoxy is disclosed in Nagano et al. to be a flame retardant, and because Applicant's invention is defined in claim 30 and claims dependent thereon as being free of halogenated flame retardant, Applicant's plastic container composition cannot contain such a halogenated epoxy. Clearly, Applicant's flame retardant container of claim 30 and claims dependent thereon are novel and unobvious over Nagano et al. in view of Nishitani et al. and it is submitted this rejection should be withdrawn. Further, claims 2 (dependent on claim 1), 26 (dependent on claim 2), and 35 (dependent on claim 30) are clearly distinguished over these references. It is submitted that Nagano et al. and Nishitani et al. do not teach or suggest antimicrobial additives in the compositions of their pallets. There can be no obviousness and this rejection has been overcome.

As to dependent claims, Applicant is entitled to file claims of various scope to define his invention. Dependent claims 2 and 5 to 11 clearly add further definition to the claims from which they depend and are entirely proper.

The phrase “optionally having an open deck design” is objected to in claim 8. To clarify the claim, this phrase has now been deleted from claim 8 and submitted in new dependent claim 25. In new claim 25, Applicant is not claiming “holes” but a pallet having a deck of open structure (i.e. a pallet having a deck with openings is being claimed). The claim defines the structure of the pallet deck which is entirely proper. It is submitted this rejection has been overcome.

It is submitted this obviousness rejection based on Nagano et al in view of Nishitani et al. has been overcome.

#### Paragraph 13

Claim 3 has been rejected under 35 USC 103(a) as being unpatentable over Nagano et al. in view of Nishitani et al. and further in view of Radican.

Applicant has shown above the failure of the obviousness rejection of claim 1, as amended, based on Nagano et al. in view of Nishitani et al.

Radican teaches the use of RFID tags on pallets.

In contrast, containers having the composition and anti-slip properties as disclosed in claim 1, even further comprising RFID tags, are clearly distinguished from and unobvious over Nagano et al. in view of Nishitani et al and further in view of Radican which do not teach or suggest the present invention containers because of their composition and unique and unobvious friction materials.

It is submitted this rejection has been overcome.

#### Paragraph 14

Claim 4 has been rejected under 35 U.S.C 103(a) as unpatentable over Nagano et al. in view of Nishitani et al., and further in view of Adedeji et al.

Applicant has shown above the failure of the obviousness rejection of claim 1, as amended, based on Nagano et al. in view of Nishitani et al.

Adedeji et al. relates to pallets that meet the requirements of the UL 2335 protocol.



This dependent claim incorporates all of the language of claim 1 of the present invention, as amended. None of the references cited teach or suggest Applicant's composition comprising friction additives free of rubber. It is submitted that this rejection has been overcome.

Paragraph 15

Claims 12-17 have been rejected under 35 USC 103(a) as being unpatentable over Nagano et al. in view of Nishitani et al., and further in view of Perez et al.

Applicant has shown above the failure of the obviousness rejection of claim 1, as amended, based on Nagano et al. in view of Nishitani et al.

Perez et al. discloses polymeric networks and various catalysts and curing agents as well as a foam composition and suggests applying such composition to a storage vessel (see Perez et al., col. 3, lines 37-38). Clearly, such application is applied as a coating to the surface of a conventional storage vessel and is not disclosed to be a structural member. It is submitted that Perez et al. did not teach or suggest polymeric foam as structural components of storage vessels.

It is notable that there is no suggestion in Perez et al. that such polymeric foams can be used as the members of the vessels themselves. Even more importantly, it is to be appreciated that there is no teaching or suggestion in any of the references that there can be incorporated in the composition of the container rubber-free friction additives in accordance with Applicant's claim 1, as amended. These dependent claims incorporate all of the features of the independent claim. It is submitted that this rejection has been overcome.

Five references have been cited in the rejections in the Office Action. It is well-accepted in the patent arts that it is impermissible within the framework of 35 U.S.C. 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 USPQ 416 (Fed. Cir.1986). It is submitted that picking and choosing pieces of five references to reconstruct the present invention is improper.

Further, selective hindsight is not applicable to the combination of prior art teachings. A claim cannot be used as a blue print for abstracting individual teaching from references. *Ashland Oil. Inc. v. Delta Resins & Refractories, Inc.*, 227 USPQ 657 (Fed. Cir. 1985). It is submitted that the Office Action has used impermissible hindsight to reconstruct the present invention. The rejections should be withdrawn.

New claims 38-40 are drawn to plastic containers comprising structural foam members and one or more of a rubber-free friction material, a non-halogenated flame retardant, and an antimicrobial additive integrally associated with the container. It is submitted these claims are indeed novel and unobvious in view of the cited art.

In view of the above, it is submitted that all rejections and objections have been overcome. Examination and reconsideration of the application, as amended, are requested. Allowance of claims 1 to 17 and 24 to 45 at an early date is solicited. Reconsideration of the restriction requirement is also respectfully requested.

Applicant's attorney, Lorraine Sherman, acknowledges with thanks the telephone interview kindly accorded her on April 29, 2003 by Examiner Aughenbaugh and Supervisory Examiner Pyon. The 35 U.S.C. 112 and 35 U.S.C. 103 rejections and claim amendments were discussed. An Interview Summary is enclosed.

Respectfully submitted,

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**Version with markings to show amendments made:**

1. (Amended) A plastic [shipping or storage] container for one or both of shipping and storage comprising a polymeric composition [including] comprising
  - a) one or more of polyolefin resins or blends thereof; and
  - b) one or more of thermosetting resins,said plastic [shipping and storage] container further comprising an [effective amount of] a friction material on at least one surface [,] thereof, said friction material being rubber-free.
2. (Amended) The plastic container according to claim 1 further comprising [an effective amount of] one or more of performance enhancement additives selected from the group consisting of flame retardants, antimicrobial additives, mildewcides, foaming agents, and fillers.
3. (Amended) The plastic container according to claim 1 further comprising radio frequency identification (RFID) tags.
4. (Amended) The plastic container according to claim 2 which is a storage pallet that meets the requirements of Underwriters Laboratories (UL) 2335 protocol for fire tests of storage pallets [shipping containers].
5. (Amended) The plastic container according to claim 1 wherein said polymeric composition comprises
  - c) 1 to 49 parts by weight of a curable thermosetting resin, the parts by weight being based on the total composition, and
  - d) 51 to 99 parts by weight of one or both of a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin and a fully prepolymerized uncrosslinked functionalized polyolefin resin, the parts by weight being based on the total composition, wherein said hydrocarbon polyolefin is present in the range of 25 to 99 parts by weight of the total composition and said functionalized polyolefin is present in the range of 0 to 50 parts by weight of the total composition.

7. (Amended) The plastic container according to claim 2 wherein said performance enhancement additives are present in the range of more than 0 and up to and including 70 parts by weights of the weight of the total composition.

8. (Amended) The plastic container according to claim 1 which is a shipping or storage pallet [optionally having an open deck design] having at least one deck.

- - 24. (New) The plastic container according to claim 1 wherein said friction material provides said surface with a static coefficient of friction in the range of 0.60 to 1.20. - -

- - 25. (New) The plastic container according to claim 8 wherein said at least one deck of said storage pallet has one or more openings therein. - -

- -26. (New) The plastic container according to claim 2 wherein said container further comprises an antimicrobial additive. - -

- - 27. (New) The plastic container according to claim 1 wherein said friction material comprises one or more of thermoplastic polymers, thermoplastic elastomers, and thermoset materials.- -

- -28. (New) The plastic container according to claim 1 comprising structural foam. - -

- -29. (New) The plastic container according to claim 2 wherein said performance enhancement additive comprises one or both of bubbles and glass beads. - -

- -30. (New) A plastic container for one or both of shipping and storage comprising a polymeric composition comprising

a) one or more of polyolefin resins or blends thereof, and

b) one or more of thermosetting resins,

said plastic container further comprising a non-halogenated flame retardant. - -

- -31. (New) The plastic container according to claim 30 which is a pallet. - -
- -32. (New) The plastic container according to claim 30 wherein said thermosetting resin is an epoxy resin selected from the group consisting of epoxy, epoxide, oxirane and ethoxyline resins having one or more of aliphatic, cycloaliphatic, and aromatic backbones optionally having one or more of hydroxyl, acrylate, ethylenic unsaturation, and carboxylic acid ester functionality. - -
- -33. (New) The plastic container according to claim 30 comprising structural foam. - -
- -34. (New) The plastic container according to claim 30 further comprising one or both of bubbles and glass beads as fillers. - -
- -35. (New) The plastic container according to claim 30 further comprising an antimicrobial additive. - -
- - 36. (New) The plastic container according to claim 30 wherein said flame retardant is selected from the group consisting of ammonium phosphates, compounds containing phosphorus-nitrogen bonds, and cyclic phosphates. - -
- - 37. (New) The plastic container according to claim 30 wherein said flame retardant is present in an amount in the range of more than zero and up to and including 25 parts by weight of the total polymeric composition. - -
- - 38. (New) A plastic container for one or both of shipping and storage comprising polymeric structural foam comprising
  - a) one or more of polyolefin resins or blends thereof, and
  - b) one or more of thermosetting resins,said structural foam comprising an integral skin and cellular core,  
said plastic container further comprising one or more additives selected from the group consisting of a rubber-free friction material, a non-halogenated flame retardant, and an antimicrobial additive that is integrally associated with said container. - -

- - 39. (New) The plastic container according to claim 37 wherein said structural foam comprises bubbles. - -
- - 40. (New) The plastic container according to claim 38 which is a pallet. - -
- 41. (New) A plastic container for one or both of shipping and storage comprising a polymeric composition comprising  
c) one or more of polyolefin resins or blends thereof, and  
d) one or more of thermosetting resins,  
said plastic container further comprising an antimicrobial additive that is integrally associated with said container and is substantially insoluble in water. - -
- - 42. (New) The plastic container according to claim 41 which is a pallet. - -
- 43. (New) The plastic container according to claim 41 wherein said antimicrobial additive is at least one of a) incorporated in said polymeric composition, and b) comprises a protective and adherent polymeric coating. - -
- - 44. (New) The plastic container according to claim 41 wherein said antimicrobial additive is selected from the group consisting of mildewcides, antiseptics, disinfectants, sanitizers, germicides, algacides, slimicides, antifouling agents, biocides, and preservatives. - -
- - 45. (New) The plastic container according to claim 41 wherein said antimicrobial additive inhibits the growth of one or more of bacteria, fungi, viruses, actinomycetes, and parasites. - -